

AMENDMENTS TO THE DRAWINGS

The two attached sheets of drawings include changes to Figure 3(b) and Figure 5 (a). These sheets, which include Figures 3(a)/3(b) and 5(a)/5(b), respectively, replace original sheets including Figures 3(a)/3(b) and 5(a)/5(b), respectively.

The changes to Figure 3(b) include the deletion of reference numbers 34 and 36.

The changes to Figure 5(a) include the repositioning of reference number 56.

Two sheets showing the changes in red ink are also included with this paper.

REMARKS

Claims 1-41 and 53-63 are pending in the application upon entry of the amendments and new claims. The specification, drawings, and claims 1-33, 35-37, and 39-41 have been amended to better describe certain aspects of the invention. Claims 42-52 have been canceled without prejudice in view of the Restriction Requirement. Claims 53-63 have been added to further describe the invention. Favorable reconsideration in light of the amendments, new claims, and the remarks which follow is respectfully requested.

Restriction Requirement

During a conversation between Examiner and Applicants' former representative Robert Nick on or about March 30, 2005, the claims were subjected to the following restriction requirement:

Group I (claims 1-41),

Group II (claims 42-52).

Affirmation of the provisional election to prosecute Group I (claims 1-41) is hereby made. It is noted that new claims 53-63 fall within elected Group I.

The Drawings

The drawings have been objected to because numeral 56 in Figure 5(a) does not point to any feature. Figure 5(a) has been corrected as suggested by the Examiner. Reference numerals 34 and 36 have been removed from Figure 3(b) since these numerals are not discussed in the specification. Two replacement sheets and two sheets showing changes accompany this paper.

Objection to the Specification

The specification at page 5, 6th paragraph has been objected to for the terms WSM/WSF. The specification has been amended as suggested by the Examiner.

Objection to the Claims

Claims 5, 6, and 26 have been objected to for informalities. Claims 5, 6, and 26 have been amended as suggested by the Examiner.

The Amendments and New Claims

Although not necessary, the independent claims have been amended to better describe the subject matter of the invention without changing the scope of the invention. Some inadvertent errors have been corrected. As a result of the amendments, the claimed invention is clearly described even to a casual observer. Dependent claims have been amended for consistency. Support for the amendments and new claims exists in the specification.

The Novelty Rejection

Claims 1-17, 19-21, 24-27, and 33-41 have been rejected under 35 U.S.C. § 102(b) over Doneen (U.S. Patent 4,842,357). Doneen relates to an optical sensor for multiplexing a plurality of channels conveying information encoded by light reflected from areas on a moving surface. The Examiner notes Figures 1 and 3 to which show an optical sensor head 10, 74 containing waveguides and long pass interference filters 20, 44, 84, and 96. The long pass interference filters 20, 44, 84, and 96 of Doneen reflect light at a wavelength below a predetermined value into one waveguide channel and allows longer wavelength light to pass therethrough into another waveguide channel.

To establish anticipation, each and every claim feature must be disclosed in a single cited art document. Claims 1, 13, 20, 41, and 59 require a wavelength selective filter positioned external to a planar light circuit and placed in energy coupled proximity to an external surface of a planar light circuit. Claims 33 and 37 require a wavelength selective filter positioned external to and placed in energy coupled proximity to an external surface of a wave guide structure or folded path optical structure, respectively. Claim 11 requires a mirror means positioned external to a planar light circuit and placed

in energy coupled proximity to an external surface of a planar light circuit. In other words, the wavelength selective filter/mirror means is separate and NOT contained within the planar light circuit, wave guide structure, or folded path optical structure.

In all of the structures of Doneen, the long pass interference filters (which the Examiner equates to the wavelength selective filter of the claims) are contained within the optical sensor head, not external to its optical sensor head. Consequently, Doneen fails to disclose a wavelength selective filter positioned external to a planar light circuit and placed in energy coupled proximity to an external surface of a planar light circuit. Doneen also fails to disclose a wavelength selective filter positioned external to and placed in energy coupled proximity to an external surface of a wave guide structure or folded path optical structure. And finally, Doneen fails to disclose a mirror means positioned external to a planar light circuit and placed in energy coupled proximity to an external surface of a planar light circuit.

Since Doneen does not disclose all of the claimed features, Doneen cannot anticipate claims 1-17, 19-21, 24-27, and 33-41. Withdrawal of the rejection is therefore respectfully requested.

The Obviousness Rejections

Claims 22, 23, 28, and 30-32 have been rejected under 35 U.S.C. § 103(a) over Doneen in view of Applicant's disclosed prior art. Claim 29 has been rejected under 35 U.S.C. § 103(a) over Doneen in view of Kuhara et al (U.S. Patent Pub. 2003/0210866). Claim 18 has been rejected under 35 U.S.C. § 103(a) over Doneen in view of Wach (U.S. Patent 6,415,082).

There are significant differences between the devices of Doneen and those covered by the claims. In a device such as that in Doneen where the long pass interference filters are contained within the optical sensor head with the waveguides, not external to its optical sensor head, several problems may be encountered. First, devices containing filters and waveguides are difficult to manufacture, since the tolerances for

the thickness of the filter are extremely tight. Second, cross-talk occurs when light leaks through the waveguide-filter interface.

Moreover, light passing through an external filter in accordance with the invention, versus an internal filter such as those described in the cited art, is interfaced with a detector that is much larger than the aperture of a waveguide. Thus, the design of the claimed invention tolerates beam expansion in free space. Consequently, the teachings of Doneen are very different from the claimed invention, and one skilled in the art would not have been motivated by Doneen to make the devices of the claims.

Generally speaking, due to the fundamental deficiencies of Doneen, claims 18, 22, 23, and 28-32 are unobvious. That is, none of the secondary cited art teaches or suggests a wavelength selective filter positioned external to a planar light circuit and placed in energy coupled proximity to an external surface of a planar light circuit. Accordingly, one skilled in the art would not have been motivated by the secondary art to make the devices of the claims. Withdrawal of the obviousness rejections is respectfully requested.

Petition for Extension of Time

A request for a three month extension of time is hereby made. The Commissioner is authorized to charge the fees to the attached credit card payment form.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

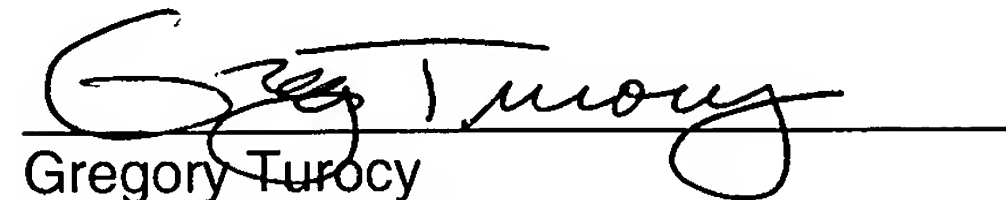
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In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees for a small entity to our Deposit Account No. 50-1063.

Respectfully submitted,

AMIN & TUROCY, LLP

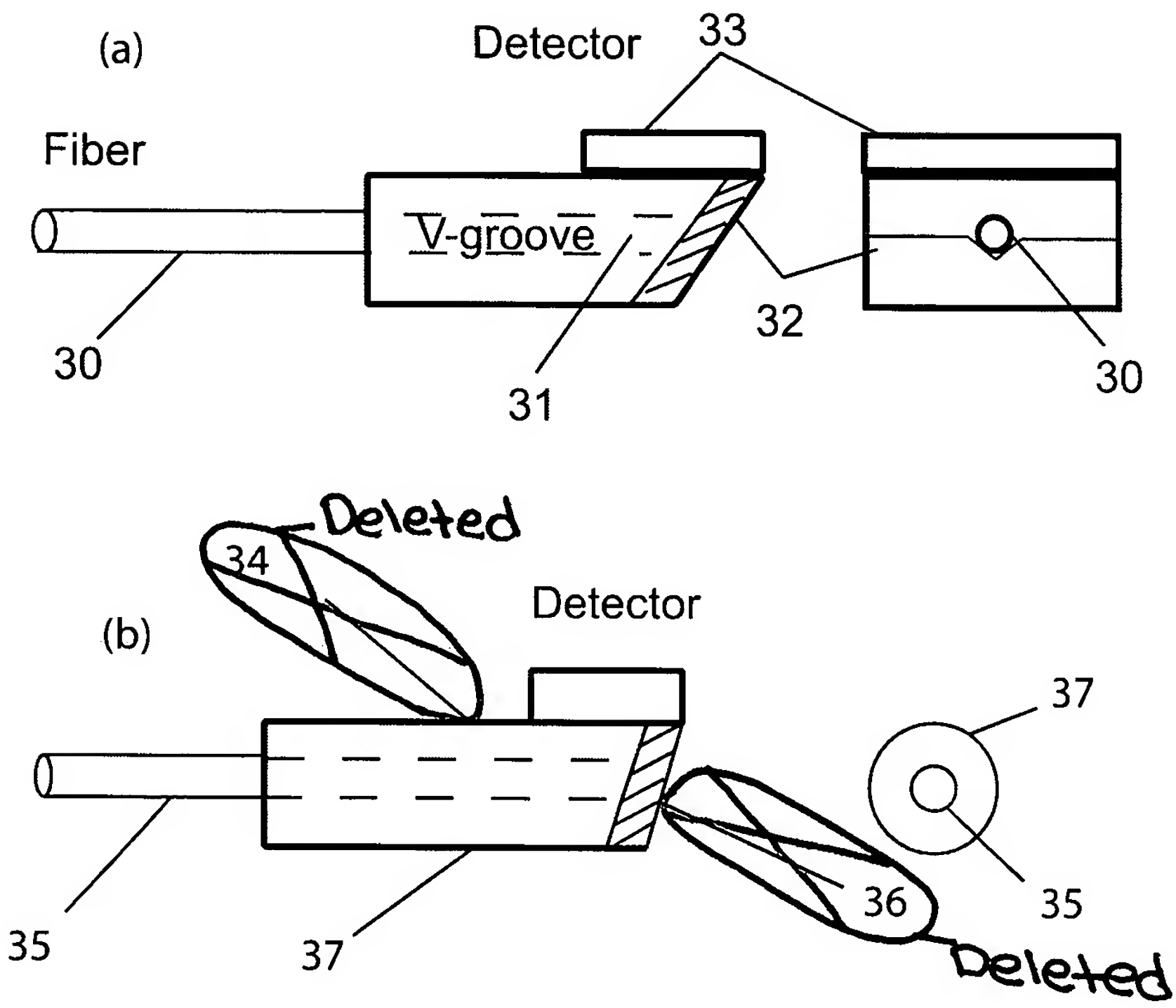
A handwritten signature in black ink, appearing to read "Greg Turocy", is written over a horizontal line.

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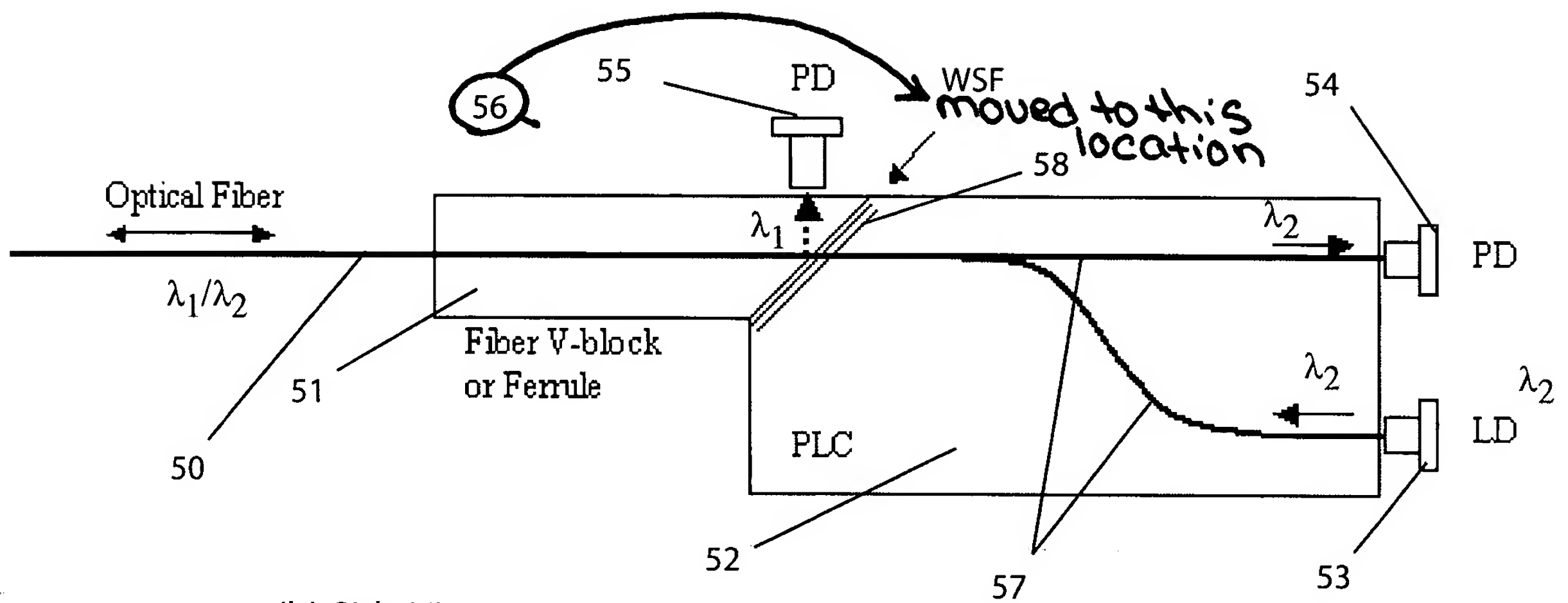
Fig. 3





(a) Top View

Fig. 5



(b) Side View

